

Message Text

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INFO AMEMBASSY BONN

AMEMBASSY TANANARIVE

AMEMBASSY KUALA LUMPUR

AMEMBASSY MOSCOW

AMEMBASSY OTTAWA

AMEMBASSY SINGAPORE

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OES, USGS, SMI

EO 11652: NA

TAGS: TEGEN, TECH, IN

SUBJ: NATIONAL MARINE SCIENCE POLICIES -- INDIA

REF: STATE 186529

1. SUMMARY. A MORE DEFINITIVE STATEMENT OF THE FUTURE INDIAN
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R&D PROGRAMS IN MARINE SCIENCE AND TECHNOLOGY, AS FORMULATED
IN THE FINAL FIFTH FIVE YEAR PLAN DOCUMENT (1974-79), SHOULD
BE AVAILABLE IN ABOUT FOUR WEEK TIME. THE FIVE YEAR SCIENCE
AND TECHNOLOGY PLAN (1974-79) DOCUMENT FORMULATED IN 1973

STILL PROVIDES A BROAD STATEMENT OF THE DIRECTIONS MARINE SCIENCE AND TECHNOLOGY IS EXPECTED TO TAKE IN THE NEXT DECADE. OFFSHORE TECHNOLOGY WILL BE ACCORDED THE HIGHEST PRIORITY IN THE COMING YEARS AFTER THE PROMISING OIL FINDS AT BOMBAY HIGH AND BASSEIN AND INDICATION OF LARGE RESERVES ELSEWHERE. THIS WILL GIVE A GREAT IMPETUS TO THE DEVELOPMENT OF MARINE INVESTIGATION CAPABILITIES IN VARIOUS FIELDS AND FOR DESIGNING AND FABRICATING OFFSHORE STRUCTURES FOR OIL PRODUCTION AND TRANSPORT BY SUBMARINE PIPELINES. IT WILL ALSO ENCOURAGE DEVELOPMENT OF UNDERWATER TECHNOLOGY AND NAVIGATIONAL AIDS. FISHERIES DEVELOPMENT, PARTICULARLY, IN LOCATING NEW MARINE AREAS FOR THAT MATTER, HAS NOW TAKEN THE SECOND PLACE IN MARINE SCIENCE AND TECHNOLOGY PRIORITIES.

2. A GENERAL ENVIRONMENT MONITORING AND PROTECTION SYSTEM FOR COLLECTION OF OCEANOGRAPHIC AND METEOROLOGICAL DATA IS PLANNED TO BE DEVELOPED. R&D IN MANAGEMENT OF COASTAL ZONE, ALREADY UNDERWAY, WILL BE FURTHER EMPHASIZED. THE NATIONAL INSTITUTE OF OCEANOGRAPHY AT GOA STILL REMAINS THE FOREMOST INDIAN INSTITUTION IN SEVERAL ASPECTS OF OCEANOGRAPHY BUT THE OIL AND NATURAL GAS COMMISSION (ONGC) IS EXPECTED TO DEVELOP CERTAIN ASPECTS OF OFFSHORE TECHNOLOGIES FOR OIL AND GAS PRODUCTION IN ITS OWN RESEARCH INSTITUTES. INTERNATIONAL COLLABORATION IN R&D ON OFFSHORE AREAS IS CONSIDERED SENSITIVE. COLLABORATION IN DEEPER WATERS AND MORE PARTICULARLY IN FIELDS SUCH AS FISHERIES, AQUACULTURE AND EVEN IN PROBLEMS OF ZONE MANAGEMENT MAY BE POSSIBLE. THIS WOULD HOWEVER BE ON A GREATLY REDUCED SCALE AS INDICATED BY THE LATEST GUIDELINES FORMULATED BY THE GOI ON FOREIGN COLLABORATION IN RESEARCH. REGIONAL COOPERATION AMONG LITTORAL STATES IN AREAS SUCH AS MARINE POLLUTION MONITORING IS FAVORED BY INDIA. END SUMMARY.

3. INTRODUCTION. THIS IS AN INTERIM REPLY TO REFTEL IN AS MUCH AS INDIA'S FINAL FIVE YEAR PLAN 1974-79 AND MORE SPECIFICALLY 1977-79 PLAN AWAITS FINAL APPROVAL BY THE HIGHEST POLICY MAKING BODY, THE NATIONAL DEVELOPMENT COUNCIL
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(NDC) WHEN IT MEETS ON SEPTEMBER 22. THIS PLAN WHICH WILL ALSO OUTLINE THE NATIONAL PLANS IN MARINE SCIENCE AND TECHNOLOGY HAS ALREADY RECEIVED THE APPROVAL OF THE PLANNING COMMISSION AND THE INDIAN CABINET. THE PLAN SHOULD BE MADE PUBLIC ONLY AFTER THE NDC MEETING; A BARE OUTLINE WILL BE AVAILABLE TO THE PRESS ON SEPTEMBER 23 AND COPIES OF THE FULL DOCUMENT BY OCTOBER 10 OR SO. THEREFORE, OUR FINAL REPLY TO REFTEL WILL BE SENT AFTER THIS DOCUMENT IS AVAILABLE. HOWEVER, EMBASSY DOES NOT REPEAT NOT EXPECT RADICAL CHANGES IN PROGRAMS OUTLINED HERE.

4. PROGRAMS IN MARINE SCIENCE AND TECHNOLOGY INCLUDED IN THE

S&T PLAN FORMULATED BY THE NCST PROVIDE A BROAD STATEMENT OF THE DIRECTION MARINE SCIENCE AN TECHNOLOGY IS EXPECTED TO TAKE IN THE NEXT 5-10 YEARS IN INDIA.

5. DUE TO FISCAL CONSTRAINTS ON THE ECONOMY AND INTERMINISTERIAL DIFFERENCES IN APPROACH, THE S&T PLAN WAS NOT ACCEPTED IN ITS TOTALITY BY THE PLANNING COMMISSION. HOWEVER, MOST OF ITS SUGGESTED PROGRAMS WERE SELECTED FOR INCLUSION IN THE DRAFT FIVE YEAR PLAN.

6. THE FOLLOWING REPORT IS BASED ON RECOMMENDATIONS CONTAINED IN THE S&T PLAN FOR THE DEVELOPMENT OF MARINE SCIENCES IN INDIA AND ON THE DISCUSSIONS THE EMBASSY SCIENCE SPECIALIST HAD WITH OFFICIALS OF SEVERAL OCEANOGRAPHIC INSTITUTIONS HE VISITED RECENTLY.

7. CURRENT STATUS. MAJOR EFFORT OF GOI SINCE 1960 HAS BEEN DIRECTED TOWARDS ORGANIZING THE SOHISTICATED NATIONAL INSTITUTE OF OCEANOGRAPHY AT PANAJI WITH REGIONAL CENTRES AT COCHIN, VISHAKHAPATNAM, CALCUTTA, AND BOMBAY. IT HAS EXCELLENT FACILITIES FOR RESEARCH IN PHYSICAL, CHEMICAL, GEOLOGICAL AND BIOLOGICAL OCEANOGRAPHY.

8. INDIAN OCEAN BIOLOGICAL CENTRE OF THE NIO AT COCHIN HAS A UNIQUE COLLECTION OF PLANKTONS FO THE INDIAN OCEAN COLLECTED BY SEVERAL SHIPS BELONGING TO MANY COUNTRIES THAT TOOK PART IN THE INTERNATIONAL INDIAN OCEAN EXPEDITION.

9. INDIAN NATIONAL OCEANOGRAPHIC DATA CENTRE OF THE NIO IS LIMITED OFFICIAL USE
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A NATIONAL FACILITY FOR EXCHANGE AND DISSEMINATION OF OCEANOGRAPHIC DATA PARTICULARLY RELATED TO THE INDIAN OCEAN AND THE SEAS AROUND INDIA. THE WORK OF THE INSTITUTE HAS BEEN RESTRICTED UNTIL RECENTLY BECAUSE IT HAD ONLY THREE SMALL SHIPS. NOW A FOUR MILLION DOLLARS SHIP WITH EQUIPMENT FROM CANADA ON BOARD HAS BEEN COMMISSIONED AND THIS IS EXPECTED TO GIVE A GRAT IMPETUS TO OCEANOGRAPHIC RESEARCH IN THE COUNTRY.

10. THE GOELOGICAL SURVEY OF INDIA IS RESPONSIBLE FOR ALL INVESTIGATIONS IN GEOLOGICAL EXPLORATION EXCEPT FOR OIL AND NATURAL GAS WHICH ARE THE RESPONSIBILITY OF THE NATURAL OIL AND GAS COMMISSION. THE ATOMIC ENERGY COMMISSION CONDUCTS STUDIES ON MINERALS, PARTICULARLY RADIOACTIVE ONES, IN THE COASTAL REGION. THE TATA INSTITUTE OF FUNDAMENTAL RESEARCH HAS BEEN INTERESTED IN CHEMICAL OCEANOGRAPHY. INDIAN METEOROLOGICAL DEPARTMENT HAS PROGRAMS IN MARINE METEOROLOGICAL STUDIES. THE NAVAL HYDROGRAPHIC OFFICE CONDUCTS HYDROGRAPHIC STUDIES. THE CENTRAL FISHERIES RESEARCH INSTITUTE AND THE CENTRAL INSTITUTE FOR FISHERY TECHNOLOGY

ARE RESPONSIBLE FOR FISHERY DEVELOPMENT. SOME UNIERSITIES
SUCH AS ANDHRA, MYSORE, KERALA AND COCHIN ARE INVOLVED
IN VARIOUS COASTALSTUDIES IN MARINE SCIENCES.

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IO-13 L-03 NSF-01 NSC-05 NSAE-00 PM-04 USIA-06 SS-15

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11. BASED ON A RECOMMENDATION IN THE S&T PLAN, THE GOI
DEPARTMENT OF SCIENCE AND TECHNOLOGY IS CONSTITUTING AN
OCEAN SCIENCE AND TECHNOLOGY AGENCY (OSTA) TO COORDINATE
OCEANOGRAPHIC RESEARCH IN INDIA.

12. INDIAN PRIORITIES. OFFSHORE TECHNOLOGY - TO MEET THE
GROWING ENERGY NEEDS CONSEQUENT TO THE ENERGY CRISIS TOP

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PRIORITY IS BEING GIVEN TO OFFSHORE TECHNOLOGY FOR OIL EXPLORATION AND PRODUCTION. AN EXTENSIVE TWO YEAR SEARCH FOR OIL AT BOMBAY HIGH SUCCESSFULLY ENDED IN COMMERCIAL PRODUCTION IN MAY THIS YEAR. IT IS NOW 10,000 BARRELS PER DAY AND IS EXPECTED TO INCREASE TO 40,000 BARRELS A DAY BY END OF 1976 (EQUIVALENT TO 2 MILLION METRIC TON OF OIL PER YEAR). ADDITIONAL LARGE AREAS NEAR THE BOMBAY HIGH SUCH AS BASSEIN ALSO PROMISE TO BE RICH IN OIL. INDIA'S TOTAL OFFSHORE PRODUCTION OF OIL BY 1980-81 IS EXPECTED TO BE 10 MILLION TONS. (THE CURRENT INDIAN REQUIREMENT IS 23 MILLION TONS, ABOUT 6.3 MILLION TONS IS PRODUCED ONSHORE).

13. ONGC, WITH ITS 23,000 EMPLOYEES, IS RESPONSIBLE FOR EXPLORATION AND DEVELOPMENT OF INDIA'S OIL AND NATURAL GAS. ONGC'S NEXT THREE YEAR PROGRAM ENVISAGES INTENSIFICATION OF EXPLORATORY DRILLING IN THE BOMBAY HIGH AND ADJACENT AREAS INCLUDING THE DEEPER CONTINENTAL SHELF. EXTENSIVE GEOLOGICAL SURVEY ARE PROPOSED TO COVER VARIOUS OFFSHORE AREAS. IT ALSO PROPOSES TO UNDERTAKE LARGE SCALE LAYING OF SUBSEA PIPELINES. (THE ESTIMATED COST OF THESE PIPELINES OVER THE NEXT FEW YEARS WILL BE 5 BILLION RUPEES.) DEVELOPMENT OF ONSHORE TERMINAL FACILITIES FOR HANDLING CRUDE OIL AND GAS IS ALSO PROPOSED.

14. AS A MEASURE OF THE FARSIGHTEDNESS OF THE NCST PANEL ON MARINE RESOURCES THEY SUGGESTED DEVELOPMENT OF THESE TECHNOLOGIES IN 1973, WHEN OFFSHORE OIL HAD YET TO BE FOUND IN INDIA. MAJOR PROJECTS PROPOSED IN THE S&T PLAN IN THIS AREA ARE: (A) TO CONDUCT SEISMIC SURVEYS AND DEVELOP DATA INTERPRETATION CAPABILITIES; (B) DEVELOPING MARINE INVESTIGATION CAPABILITIES IN OCEANOGRAPHY, HYDROGRAPHIC SURVEYS, AND MARINE SOIL INVESTIGATIONS; (C) DEVELOPMENT OF SOFTWARE FOR DESIGNING AND FABRICATING OFFSHORE STRUCTURES REQUIRED FOR OIL PRODUCTION AT SEA AND FOR OFFSHORE OIL TERMINALS. THIS IS PARTICULARLY TRUE FOR DEEPER WATERS SINCE INDIA IS CAPABLE OF DOING THESE JOBS IN SHALLOW WATERS; (D) DEVELOPMENT OF OIL PRODUCTION TECHNOLOGY INCLUDING DRILLING OF WELLS. HERE ONLY MARGINAL INPUTS MAY BE REQUIRED SINCE THE ONGC HAS A GOOD CAPABILITY FOR ONSHORE ACTIVITY. (E) DEVELOPMENT OF SUBMARINE PIPELINE TRANSPORT OF CRUDE OIL OR SLURRY. INDIAN KNOWHOW EXISTS FOR LAYING ONLY SMALL LIMITED OFFICIAL USE
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PIPELINES. FOR LAYING LARGE PIPESZS TECHNOLOGY HAS TO BE DEVELOPED.

15. AS OF NOW, ONGC WILL HAVE TO DEPEND LARGELY ON IMPORTS FOR ACQUIRING THE NECESSARY EQUIPMENT IN OFFSHORE EXPLORATION. HOWEVER, THE GOI STATED POLICY IS TO ACQUIRE SELF-SUFFICIENCY IN THIS FIELD AS QUICKLY AS POSSIBLE. SINCE

ONGC ITSELF IS STATE OWNED, IT IS EXPECTED THAT GOI WILL INVEST HEAVILY IN R&D PROGRAMS FOR DEVELOPING TECHNOLOGY TO DESIGN AND FABRICATE OFFSHORE FIXED STRUCTURES, SUCH AS, PRODUCTIN PLATFORMS AS WELL AS OFFSHORE TERMINALS FOR LARGE TANKERS AND FOR FABRICATING FACILITIES FOR THE PIPELINE TRANSPORTATION OF OIL.

16. THE INSTITUTE OF PETROLEUM EXPLORATION (IPE), DEHRA DUN HAS STRONG DEPARTMENTS OF GEOLOGY, CHEMISTRY AND GEO-PHYSICS DRILLING FOR APPLIED RESEARCH ON EXPLORATION AND PRODUCTION OF OIL AND GAS. AN INSTITUTE OF RESERVOIR STUDIES IS BEING ESTABLISHED AT AHMEDABAD WITH FRENCH HELP TO SUPPLEMENT THE ACTIVITIES OF THE IPE. THE SOVIETS ARE HELPING SET UP AN INSTITUTE OF DRILLING TECHNOLOGY AT DEHRA DUN FOR RESEARCH IN DRILLING AND CEMENTING TECHNIQUES, DEEP WELL DRILLING AND SUBSEA PROBLEMS. THERE ARE SEVERAL OTHER LABORATORIES ENGAGED IN RESEARCH ON REFINING OF PETROLEUM PRODUCTS.

17. LIVING RESOURCES, FISHERIES. INDIA'S ANNUAL CATCH IN 1974 WAS 1.8 MILLION TONS OF FISH FROM THE SEAS WITH A POTENTIAL OF SOME 10 MILLION TONS. INDIA PLANS TO DOUBLE THE CATCH BY 1979. THIS SI RPOSED TO BE DONE BY IMPROVING TECHNICAL EFFICIENCY OF HARVESTING KNOWN STOCKS, BY IMPROVING THE LOCATING AND DEFINING OF NEW STOCKS, DEVELOPING NEW PRODUCTS FROM UNDERUSED SPECIES AND BY ENCOURAGING AQUACULTURE. IN THIS FIELD MANY UNIVERSITIES, BUT MORE PARTICULARLY THE NATIONAL INSTITUTE OF OCEANOGRAPHY, ARE DOING VERY GOOD WORK. THE NIO HAS PUBLISHED SEVERAL VOLUMES OF THE PLANKTON ATLASES FOR THE SEAS AROUND INDIA COVERING MANY SPECIES OF OCEAN LIFE.

18. R&D PROJECTS ARE PROPOSED FOR BETTER DESIGN OF FISHING VESSELS AND WINCHES PARTICULARLY FOR DEEPER WATERS, AND ON LIMITED OFFICIAL USE
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EQUIPMENT DEVELOPMENT FOR FISHING AND FISH PROCESSING AND AQUACULTURE.

196. TOTAL AID PROMISED OR GIVEN TO INDIA TO DATE FOR FISHERIES EXPLORATION AND DEVELOPMENT BY THE UNDP AND NORWAY IS \$3.4 MILLION AND \$22 MILLION RESPECTIVELY. GOI PLANS TO SPEND \$180 MILLION ON FISHERIES DEVELOPMENT DURING 1974-79.

20. MARINE ENVIRONMENT - PROGRAMS SUGGESTED ARE: (A) NATIONAL CYCLONE WARNING AND RESEARCH CENTRE FOR DETECTION AND FORECAST OF CYCLONES THROUGH USE OF RADARS AND SATELLITE STATIONS. (B) ENVIRONMENTAL MODIFICATION PROGRAMS TO RESTORE ECOLOGICAL BALANCE IN POLLUTED COASTAL AREAS. (C) MARINE BIOLOGICAL RESEARCH TO STUDY THE DYNAMICS OF

THE ECOSYSTEM FOR PROTECTION AND CONTROL OF BIOLOGICAL EVENTS. (D) A GENERAL ENVIRONMENTAL MONITORING AND PROTECTION SYSTEM FOR COLLECTION OF OCEANOGRAPHIC AND METEOROLOGICAL DATA THROUGH LARGE NUMBER OF SHIPS, STATIONARY AND FREE FLOATING BUOYS AND NET WORK OF INSTRUMENTS ON FIXED PLATFORMS AND REMOTE SENSORS.

21. MARINE MINERALS - PROJECTS FOR MINERALS EXPLORATION AND FOR USE OF SEA WATER IN NON-CONVENTIONAL AREAS HAVE BEEN PROPOSED. THESE INCLUDE (A) GEOLOGICAL MAPPING AND EXPLORATION FOR BASIC GEOLOGY AND FOR MINERAL RESOURCES; (B) RESEARCH ON MARINE DEPOSITS; (C) DEVELOPMENT OF SPECIAL MARINE MATERIALS FOR HARBOR CONSTRUCTION AND FLOATING BREAKWATERS AND NEW DREDGING TECHNIQUES, AND (D) SEA WATER UTILIZATION WHICH INCLUDES SEA WATER IRRIGATION AND USE OF SEA WEEDS AS RAW MATERIALS.

22. VERY LITTLE HAS BEEN DONE IN INDIA TO GET MINERALS FROM THE SEA. HOWEVER, NIO HAS UNDERTAKEN STUDIES ON GEOLOGY, PETROLEUM AND MINERAL PROSPECTS OF VARIOUS OFFSHORE AREAS. NIO HAS ANALYZED THE DATA COLLECTED BY THE INS DARSHAK ON THE NORTH EASTERN ARABIAN SEA INVOLVING GEOCHEMICAL, SEDIMENTOLOGICAL AND PALAEOGEOLOGICAL ASPECTS OF THE SEDIMENT AND ROCK SAMPLES. SAMPLES FROM THE DEEP SEA DRILLING PROJECT IN THE ARABIAN SEA WERE ALSO INVESTIGATED.

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23. COASTAL ZONE - THERE IS MINIMAL UTILIZATION OF THE
COASTAL ZONE FOR SHIPPING, WASTE DISPOSAL OR RECREATION IN
INDIA. PROJECTS PROPOSED IN THE S&T PLAN ARE ON COLLECTION
OF MARINE DATA FOR COASTAL AREAS, NEW MATERIALS FOR HARBOR
CONSTRUCTION, DEVELOPMENT OF MARINE FENDERS, FLOATING BREAK
WATERS, DREDGING AND OFFSHORE CONSTRUCTION EQUIPMENT.
PROGRAMS ENVISAGED INCLUDE EVALUATION OF MARINE FORCES ON
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OFFSHORE DESIGN OF ANY STRUCTURES AND DESIGN OF INEXPENSIVE
SHORE PROTECTION.

24. CONSIDERABLE WORK IN THIS FIELD HAS BEEN DONE AT THE
NATIONAL INSTITUTE OF OCEANOGRAPHY. A MAJOR R&D PROJECT AT
THE INSTITUTE IS TO DEVELOP OCEAN ENGINEERING CAPABILITY
WITH REFERENCE TO COASTAL ZONE MANAGEMENT. ADDITIONAL
STUDIES ARE PROPOSED ON SHORE PROTECTION AND EFFECTS OF
WAVES ON OFFSHORE STRUCTURES SUCH AS DRILLING PLATFORMS AND
EFFECT OF WAVES ON SHIP MOTIONS AND EFFICIENCY OF VARIOUS
SYSTEMS FOR REALIZATION OF WAVE ENERGY. THE WAVE RESEARCH
LABORATORY PROPOSED TO BE DEVELOPED AT THE NIO HOPES TO TAKE
UP CONSULTANCY IN COASTAL ZONE MANAGEMENT, NAVIGATION AND
HARBOR DEVELOPMENT. EQUIPMENT NEEDED IS WAVE GENERATORS
AND OSCILATORS. THE PROJECT WAS AT ONE STAGE PROPOSED FOR
US COLLABORATING COASTING 1.2 MILLION RUPEES OF SVC FOR
FIVE YEARS. IT IS ALSO PROPOSED TO DEVELOP EQUIPMENT TO
CHECK OIL LEAKS.

25. SPECIALIZED SUPPORT SERVICES - THE S&T PLAN ALSO MAKES
RECOMMENDATIONS FOR DEVELOPING UNDERWATER TECHNOLOGY CON-
SISTING OF DEEP DIVING, UNDERWATER MAINTENANCE, REPAIRS,
UNDERWATER CUTTING AND WELDING.

26. THE S&T PLAN ALSO ADVOCATED DEVELOPING NAVIGATION AIDS
FOR ACCURATE POSITIONING OF OIL DRILLING, PRODUCTION PLAT-
FORMS, WELL LOCATION AND ETC.

27. ANSWERS TO SPECIFIC QUESTIONS IN REFTEL - ANSWERS TO
QUESTIONS POSED IN PARAGRAPH 2 OF REFTEL FOLLOW:

(A) GOVERNMENT SPONSORED DEVELOPMENTAL ACTIVITY IN INDIA IS THROUGH THE FIVE YEAR PLANS AND THAT IS ALSO TRUE FOR MARINE SCIENCES. CURRENT EMPHASIS IS (IN ORDER OF DECENDING IMPORTANCE) ON OFFSHORE OIL AND GAS EXPLORATION AND THE DEVELOPMENT OF RELEVANT TECHNOLOGY, FISHERIES DEVELOPMENT AND STUDIES ON MARINE ENVIRONMENT. EXPLOITING MARINE MINERALS SHOULD ALSO RECEIVE ATTENTION IN THE FUTURE. OVER 85 PERCENT OF THE RESEARCH IN INDIA IS SUPPORTED BY THE GOVERNMENT AND TO THAT EXTENT ALMOST ALL OF THE FUNDING SUPPORT FOR MARINE SCIENCE AND TECHNOLOGY IS FROM THE GOVERNMENT LIMITED OFFICIAL USE

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MENT. THERE IS NO INDICATION OF A NATIONAL POLICY WHICH SUPPORTS GOVERNMENT, ACADEMIC, AND INDUSTRIAL COLLABORATION. HOWEVER, THE INDUSTRIAL AGENCY RESPONSIBLE FOR OIL AND GAS EXPLORATION, NAMELY ONGC, IS GOVERNMENT OWNED. IT HAS EXCLUSIVE RIGHTS FOR EXPLORATION IN THE BOMBAY HIGH AND FOR ONSHORE EXPLORATION OF OIL IN INDIA EXCEPT FOR A SMALL AREA IN ASSAM. AGAIN NIO IS A GOVERNMENT LABORATORY.

(B) THERE IS NO CLEAR STATEMENT OF POLICY CONCERNING INTERACTION OF GOVERNMENT, INDUSTRY AND UNIVERSITIES IN RESEARCH TRAINING IN EXPANDED OCEAN USES. HOWEVER, UNIVERSITIES DO RECEIVE GOVERNMENT PROJECTS AND GRANTS FOR RESEARCH AND TRAINING.

(C) ONE EXAMPLE OF IMPLEMENTATION OF GOVERNMENT POLICY IN DEVELOPING MARINE SCIENCE AND TECHNOLOGY IS THE CREATION OF THE NATIONAL INSTITUTE OF OCEANOGRAPHY AND THE ACQUISITION BY THE INSTITUTE OF A SOPHISTICATED OCEANOGRAPHIC SHIP.

ANOTHER EXAMPLE IS THE STEPS TAKEN BY THE DEPARTMENT OF SCIENCE AND TECHNOLOGY TO SET UP AN OCEAN SCIENCE AND TECHNOLOGY AGENCY AS RECOMMENDED IN THE S&T PLAN TO HELP COORDINATE THE ACTIVITIES OF SEVERAL DIVERSE AGENCIES DEALING IN OCEANOGRAPHIC RESEARCH. A MARINE RESEARCH VESSEL WILL BE ACQUIRED FOR USE BY DIFFERENT RESEARCH AND SCIENTIFIC ORGANIZATIONS FOR MARINE SURVEYS AND RESEARCH. IT MAY COST RS. 70 MILLION AND TAKE FOUR YEARS TO COMPLETE. A RIG FOR CORE DRILLING OF THE SEA BED IS PROPOSED TO BE INSTALLED ABOARD THE SHIP AND THIS MAY BE ACQUIRED FROM WEST GERMANY. A DETAILED DESIGN FOR A DRILLING PONTON HAS BEEN CONTRACTED TO A COMPANY BY THE DST.

(D) THERE IS NO GOI STATEMENT REGARDING MANPOWER TRAINING IN THE MARINE SCIENCES.

(E) THERE HAVE RECENTLY BEEN GOI EFFORTS FOR COOPERATION IN SOME ASPECTS OF MARINE SCIENCES WITH NEIGHBORING COUNTRIES. COLLABORATION WITH NEIGHBORING COUNTRIES IN AREAS SUCH AS MARINE POLLUTION MONITORING AND BEACH POLLUTION IS

FAVORED. DR SEN GUPTA OF NIO WAS SENT TO MAURITUS, MAD-
GASCAR, SINGAPORE AND MALAYSIA RECENTLY BY GOI FOR THIS
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PURPOSE, ACCORDING TO SOURCES AT NIO. UN ENVIRONMENTAL
PROGRAM HAS SPONSORED A PROJECT AT THE NIO IN POLLUTION
MONITORING OF THE INDIAN SEAS SINCE NIO HAS THE REQUISITE
FACILITIES AND EQUIPMENT.

28. ON A RECENT TRIP TO THE NIO AT PANAJI, THE SCIENCE
SPECIALIST WAS GIVEN THE IMPRESSION THAT GOI DOES NOT FAVOR
COLLABORATION FOR RESEARCH INVOLVING THE CONTINENTAL SHELF
BUT COLLABORATION IN OTHER FIELDS WAS ALRIGHT. IN PARTICULAR,
COLLABORATION IN PHYSICAL OCEANOGRAPHY IN OFFSHORE AREAS IS
DISCOURAGED. THE ONLY EXCEPTION PERHAPS IS A COLLABORATIVE
FIVE YEAR PROJECT NGRI HAS ENTERED INTO WITH THE USSR FOR
CONDUCTING DEEP SEISMIC SOUNDINGS ON THE CONTINENTAL SHELF.
THIS RESULTED FROM A SUCCESSFUL COLLABORATION BETWEEN THE
TWO NATIONS ON DEEP SEISMIC SOUNDING OF VARIOUS PROFILES IN
INDIA.

29. THERE IS INTEREST IN COLLABORATION IN DEEP SEA DRILLING
PROJECTS, PHARMACOLOGICALLY ACTIVE ABSTRACTIVES FROM MARINE
FLORA AND FAUNA, DESALINATION, AND DEVELOPING A WAVE RESEARCH
LABORATORY AND AQUACULTURE. IN FACT, PROPOSALS FROM INSTITUTE
SCIENTISTS IN THESE AREAS HAVE BEEN SUBMITTED TO THE CSIR
(UNDER THE GOI) FOR US COLLABORATION THROUGH SVC, A YEAR AGO.
MR K., JOHRY, SCIENTIST INCHARGE, INTERNATIONAL COLLABORA-
TION OF THE COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH
(CSIR) INDICATED THAT GOI WAS YET TO TAKE A POLICY DECISION
ON COLLABORATION IN THESE FIELDS AND SO PROPOSALS HAVE BEEN
KEPT PENDING. COLLABORATION IN THESE ARAS WILL BE SCRUTINIZED
VERY CLOSELY BY GOI. COLLABORATION WILL BE ALLOWED ONLY
IF IT IS FOUND TO BE ADVANTAGEOUS TO INDIA.
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Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: POLICIES, OCEANOGRAPHY, OFFSHORE OIL FIELDS, OCEANOGRAPHIC RESEARCH
Control Number: n/a
Copy: SINGLE
Draft Date: 15 SEP 1976
Decaption Date: 01 JAN 1960
Decaption Note:
Disposition Action: RELEASED
Disposition Approved on Date:
Disposition Authority: GolinoFR
Disposition Case Number: n/a
Disposition Comment: 25 YEAR REVIEW
Disposition Date: 28 MAY 2004
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1976NEWDE13660
Document Source: ADS
Document Unique ID: 00
Drafter: n/a
Enclosure: n/a
Executive Order: N/A
Errors: n/a
Film Number: D760349-0638
From: NEW DELHI
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1976/newtext/t197609108/baaaeniv.tel
Line Count: 527
Locator: TEXT ON-LINE, TEXT ON MICROFILM
Office: ACTION OES
Original Classification: LIMITED OFFICIAL USE
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 10
Previous Channel Indicators:
Previous Classification: LIMITED OFFICIAL USE
Previous Handling Restrictions: n/a
Reference: n/a
Review Action: RELEASED, APPROVED
Review Authority: GolinoFR
Review Comment: n/a
Review Content Flags:
Review Date: 13 APR 2004
Review Event:
Review Exemptions: n/a
Review History: RELEASED <13 APR 2004 by greeneet>; APPROVED <14 APR 2004 by GolinoFR>
Review Markings:

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US Department of State
EO Systematic Review
04 MAY 2006

Review Media Identifier:
Review Referrals: n/a
Review Release Date: n/a
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
Secure: OPEN
Status: NATIVE
Subject: NATIONAL MARINE SCIENCE POLICIES -- INDIA
TAGS: TGEN, TECH, IN
To: STATE INFO BONN
TANANARIVE
KUALA LUMPUR
MOSCOW
OTTAWA
SINGAPORE

BOMBAY
CALCUTTA
MADRAS
Type: TE

Markings: Margaret P. Grafeld Declassified/Released US Department of State EO Systematic Review 04 MAY 2006